

## **REMARKS**

In response to the Office Action dated March 1, 2007, Applicants respectfully request reconsideration based on the following remarks. Applicants respectfully submit that the claims as presented are in condition for allowance.

Claims 1-64 are pending in the present application and claims 2-4, 13, 18-24, 29, 38, 42-45, 47, 51 and 54-64 are withdrawn from further consideration. Claims 1, 5-12, 15-18, 25-28, 30-41, 46, 48-50, 52 and 53 have been rejected. Claims 8, 15, 32, 39, 48 and 52 have been indicated as being allowable but for their dependence on rejected base claims, Applicants cordially thank the Examiner for indication of the same. Claims 25 and 46 have been amended not for reasons relating to patentability but to correct minor typographical errors. Claims 1, 25, 30 and 46 have been amended, Claim 6 has been cancelled, leaving Claims 1, 5, 7-12, 14-17, 25-28, 30-37, 39-41, 46, 48-50, 52 and 53 for further consideration upon the entry of the present Amendment. No new matter has been added.

Claims 1, 25, 30 and 46 have been amended to better define the invention. Support for the amendment to Claims 1, 25 and 46 can be found at least in Claim 6 as originally filed or in Claim 30 as originally filed.

### **Rejections under § 103**

Claims 1, 5, 9, 10, 12, 14, 16, 17, 25, 34, 35, 46, 49, 50, 52 and 53 stand rejected under 35 U.S.C. § 103(a) as being allegedly anticipated by Cho et al. (U.S. Patent No. 6,674,250, hereinafter "Cho") in view of Germeshausen (US 2,756,361). (Office Action dated 09/28/07, page 3)

The Examiner states that "[I]t would have been obvious to one having ordinary skill in the art at the time the invention was made to replace (not stated by the Examiner) Cho's dielectric member with Germhausen's solid metallic second member for the purpose of achieving a good seal between the first conductive member and the end portion of the lamp body as taught by Germeshausen." (Office Action dated 09/28/07, page 3)

In particular with regards to independent claims 1, 25 and 46, the Examiner alleges that Cho discloses "a second member (i.e., protective film in the inner side of the external electrode

13) disposed between the first member (i.e., external electrode 13) and the lamp body (11), the second member (i.e., protective film in the inner side of the external electrode 13) having metallic solder (i.e., magnesium oxide or calcium oxide, etc.) [See pages 2, 3 and 4 of the Detailed Action].

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing that all elements of the invention are disclosed in the prior art; that the prior art relied upon, coupled with knowledge generally available in the art at the time of the invention, must contain some suggestion or incentive that would have motivated the skilled artisan to modify a reference or combined references; and that the proposed modification of the prior art must have had a reasonable expectation of success, determined from the vantage point of the skilled artisan at the time the invention was made. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *Amgen v. Chugai Pharmaceuticals Co.*, 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996).

The claimed invention is directed to a lamp for emitting light, comprising a lamp body in which a discharge gas is injected; and first and second electrodes disposed at opposite ends of the lamp body, for receiving current externally provided, wherein the first electrode includes: a first member for receiving a first end portion of the lamp body, the first member being electrically conductive; and a second member disposed between the first member and the lamp body, the second member having metallic solder and being coated on the first end portion of the lamp body by melting to provide adhesion between the first member and the lamp body, wherein the second member of the first electrode has a melting point lower than a melting point of the first member of the first electrode. (see Claims 1, 25 and 46)

Cho teaches that in order to increase life of the glass tube 11 and to improve the generation of secondary electrons, ferroelectrics may be applied to the inner side of the external electrode 13 and the glass tube 11. (Col. 7, lines 48 – 59) Furthermore, in addition to ferroelectrics, magnesium oxide or calcium oxide, etc., which can serve as a protective film and enable the electron to discharge easily, may be applied to the inner side of the external electrode 13 and the glass tube 11. (Col. 8, lines 24-34.) Thus the second member in Cho is a non-electrically conducting dielectric or a metal oxide. Cho also does not teach that the second member of the first electrode has a melting point lower than a melting point of the first member

of the first electrode as is presently claimed. For this reason at least, Cho does not teach all elements of the claimed invention.

There is no disclosure in Cho that either the magnesium oxide or calcium oxide is a metallic solder or that the magnesium oxide or calcium oxide is used to increase adhesion between the glass tube 11 and the external electrode 13. Furthermore, there is no disclosure in Cho that the magnesium oxide or calcium oxide is coated on the first end portion of the glass tube 13 by melting. At best, Cho discloses that the external electrodes 13 may be formed on both ends of the glass tube 11 by dipping both ends of the glass tube into a metal solution. (Col. 8, lines 7-10.)

In the first instance, it is to be noted that neither the ferro-dielectrics nor the magnesium oxide nor the calcium oxide are metallic. Cho, in teaching non-metallic coatings disposed on the inside of the external electrodes does not teach all elements of the claimed invention. In addition, one of ordinary skill in the art would know that dielectrics are non-electrically conducting, which means that they cannot be metallic (all metallic materials being electrically conducting). Thus Cho teaches away from the claimed invention, since the claimed invention requires the second member to be a metallic solder.

Germhausen teaches a cap 2 disposed upon the end of the tube 1 to seal the tube. (see Figure 1) Germhausen teaches that the cap 2 and the tube 1 are coated with a layer of solder in order to reduce the difference between the coefficients of expansion between the cap 2 and the tube 1. (see Col. 4, lines 10 – 13) Germhausen also does not teach that the second member of the first electrode has a melting point lower than a melting point of the first member of the first electrode as is presently claimed. For this reason at least, Germhausen does not teach all elements of the claimed invention. Germhausen therefore does not rectify the deficiency of Cho.

In addition, Germhausen and Cho teach away from each other and there is no motivation to combine references. Cho's disclosure of an electrically insulating layer between the electrode and the tube is diametrically opposed to Germhausen's teaching of an electrically conducting metallic solder layer between the cap and tube. One of ordinary skill in the art upon reading Cho's teaching of using a electrically insulating layer would not seek to combine it with Germhausen that teaches a metallic solder.

In addition, Germhausen and Cho also teach away from one another with regard to the construction of the electrode. Germhausen teaches a cap 16 that serves as an electrical conductor

to provide electricity to an electrode 17 that is located inside the tube. Cho, as well as the claimed invention, are both directed to an electrode that is disposed on the outside of the tube. The electrodes in Cho and in the claimed invention are used to charge a gas that is disposed inside the tube. These disparate teachings between Germhausen and Cho would not motivate one of ordinary skill in the art to combine references.

Additionally, Germhausen teaches an open tube that is closed by the cap 16, while Cho is directed to a sealed tube. One of ordinary skill in the art upon reading these disparate teachings would not seek to combine references in the manner made by the Examiner.

Applicants believe that the Examiner has not made a prima facie case of obviousness over Cho in view of Germhausen. Applicants respectfully request a withdrawal of the obviousness rejection and an allowance of the claims.

Claims 26, 27, 36 and 37 stand rejected under 35 U.S.C. § 103(a) as being allegedly anticipated by Cho et al. (U.S. Patent No. 6,674,250, hereinafter "Cho") in view of Germeshausen (US 2,756,361) and further in view of Yoo (U. S. Patent No. 6,905,224. (Office Action dated 09/28/07, page 5)

The Examiner states that Cho discloses all of the elements of the abovementioned claims except, *the first and second lamp clips for holding the first and second electrodes of the lamp, the first lamp clip being attached to the first frame, wherein the first and second frames, respectively, including upper and lower parts between which the first and second electrodes of the lamp, respectively being disposed; and a connection part connected with the upper and lower parts, the connection part having an opening through which the first electrode of the lamp is inserted*, which the Examiner further states is disclosed primarily in FIGS. 10-13 of Yoo.

(Office Action dated 09/28/07, page 5)

Applicants respectfully traverse.

As noted above, Cho and Germhausen do not teach all elements of the claimed invention. Yoo also does not teach that the second member of the first electrode has a melting point lower than a melting point of the first member of the first electrode as is presently claimed. For this reason at least, Cho and Germhausen when combined with Yoo do not teach all elements of the claimed invention.

In addition, Cho and Germhausen teach away from one another. These disparate teachings would demotivate one of ordinary skill in the art from combining references. Yoo does not cure these deficiencies.

Accordingly, it is respectfully requested that the rejections to claims 26, 27, 36 and 37 under § 103(a) be withdrawn and allow the same to issue.

### ***Double Patenting***

Claims 1, 5-7, 9-12, 16-18, 25-28, 30, 31, 33-38, 40, 41, 46, 49, 50 and 53 stand provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-18 of U.S. Patent Application No. 10/508,587 to Kim et al. The Examiner has stated that the conflicting claims are not patentably distinct from each other because both applications disclose an image display device for displaying images using light internally provided comprising: a display panel, a light assembly, and a lamp including; a lamp body, first and second electrodes, a first member that receives a first end portion of the lamp body, and a second member disposed between the first member and the lamp body. Applicants respectfully traverse.

Claim 1 of copending U.S. Patent Application No. 10/508,587 is directed to a lamp comprising a lamp tube for receiving a power voltage to generate a light; an electrode having a pair of electrodes for supplying the power voltage to the lamp tube, the pair of electrodes being separated from each other, and at least one electrode of the pair of electrodes being disposed on a first outer surface of the lamp tube as an outer electrode; and an adhesive means having a silver component and being disposed between the outer electrode and the lamp tube.

The claimed invention is directed to a lamp for emitting light, comprising a lamp body in which a discharge gas is injected; and first and second electrodes disposed at opposite ends of the lamp body, for receiving current externally provided, wherein the first electrode includes: a first member for receiving a first end portion of the lamp body, the first member being electrically conductive; and a second member disposed between the first member and the lamp body, the second member having metallic solder and being coated on the first end portion of the lamp body by melting to provide adhesion between the first member and the lamp body, wherein the second member of the first electrode has a melting point lower than a melting point of the first member of the first electrode. (see Claims 1, 25 and 40)

U.S. Patent Application No. 10/508,587 does not disclose that the second member of the first electrode has a melting point lower than a melting point of the first member of the first electrode and therefore the claimed invention is not obvious over 10/508,587. For this reason at least, Claims 1, 5-7, 9-12, 16-18, 25-28, 30, 31, 33-38, 40, 41, 46, 49, 50 and 53 cannot be provisionally rejected under the judicially created doctrine of obviousness-type double patenting and are patentable over claims 1-18 of U.S. Patent Application No. 10/508,587 to Kim et al. Applicants respectfully request a withdrawal of the obviousness-type double patenting rejection and an allowance of the claims.

### ***Conclusion***

In view of the forgoing remarks distinguishing the prior art of record, Applicants submit that this application is in condition for allowance. Early notification to this effect is requested.

The Examiner is invited to contact Applicants' Attorneys at the below-listed telephone number regarding this Amendment or otherwise regarding the present application in order to address any questions or remaining issues concerning the same.

If there are any charges due in connection with this response, please charge them to Deposit Account 06-1130.

Respectfully submitted,

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